VITEK, V.

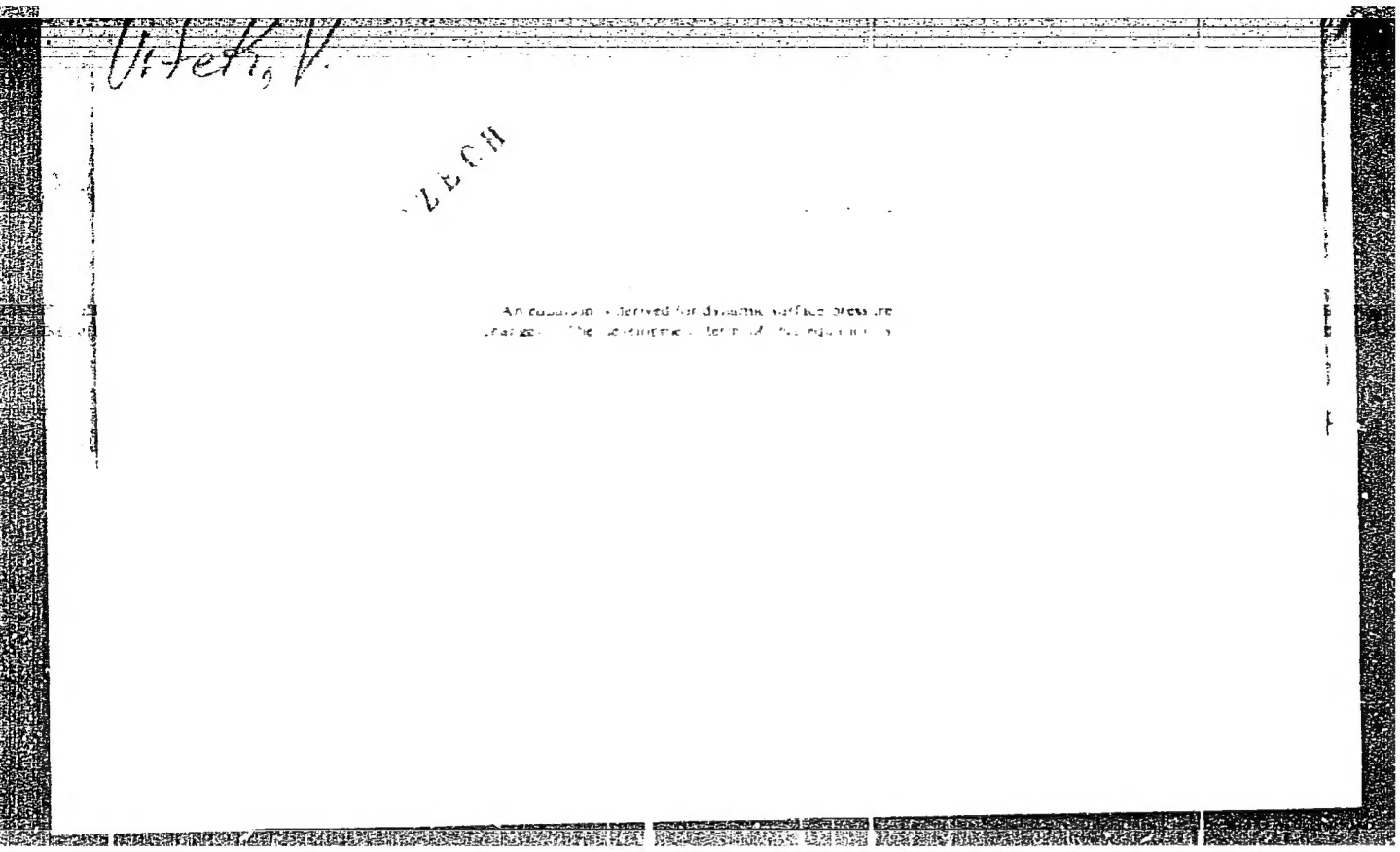
Relation between the surface of nondivergence and the surface of jet flow. p. 96. METEOROLOGICKE ZPRAVY. Vol. 6, No. 4, Sept. 1953,

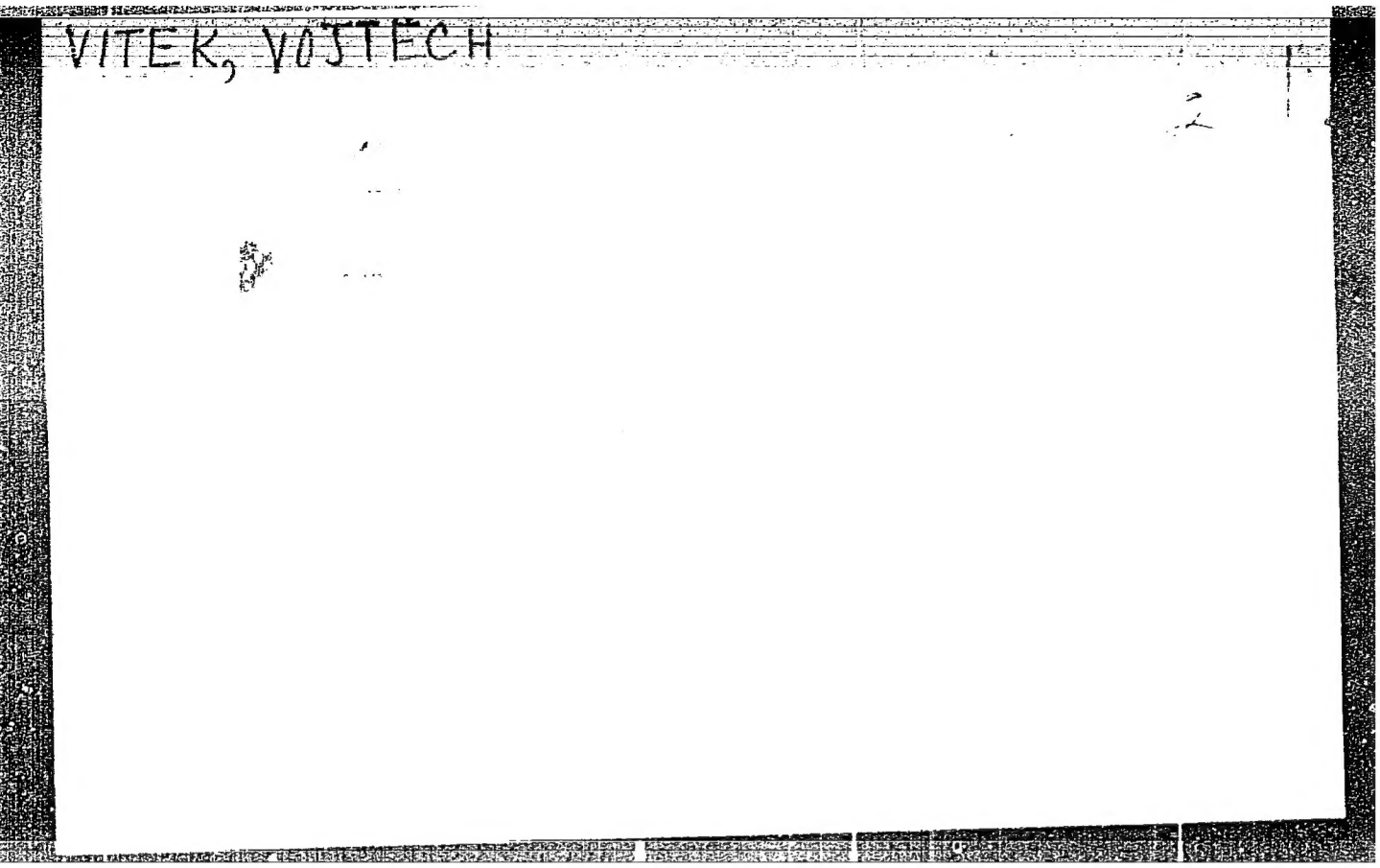
SOURCE: East European Accessions List. (EEAL), LC, Vol. 5, No. 3. March 1956

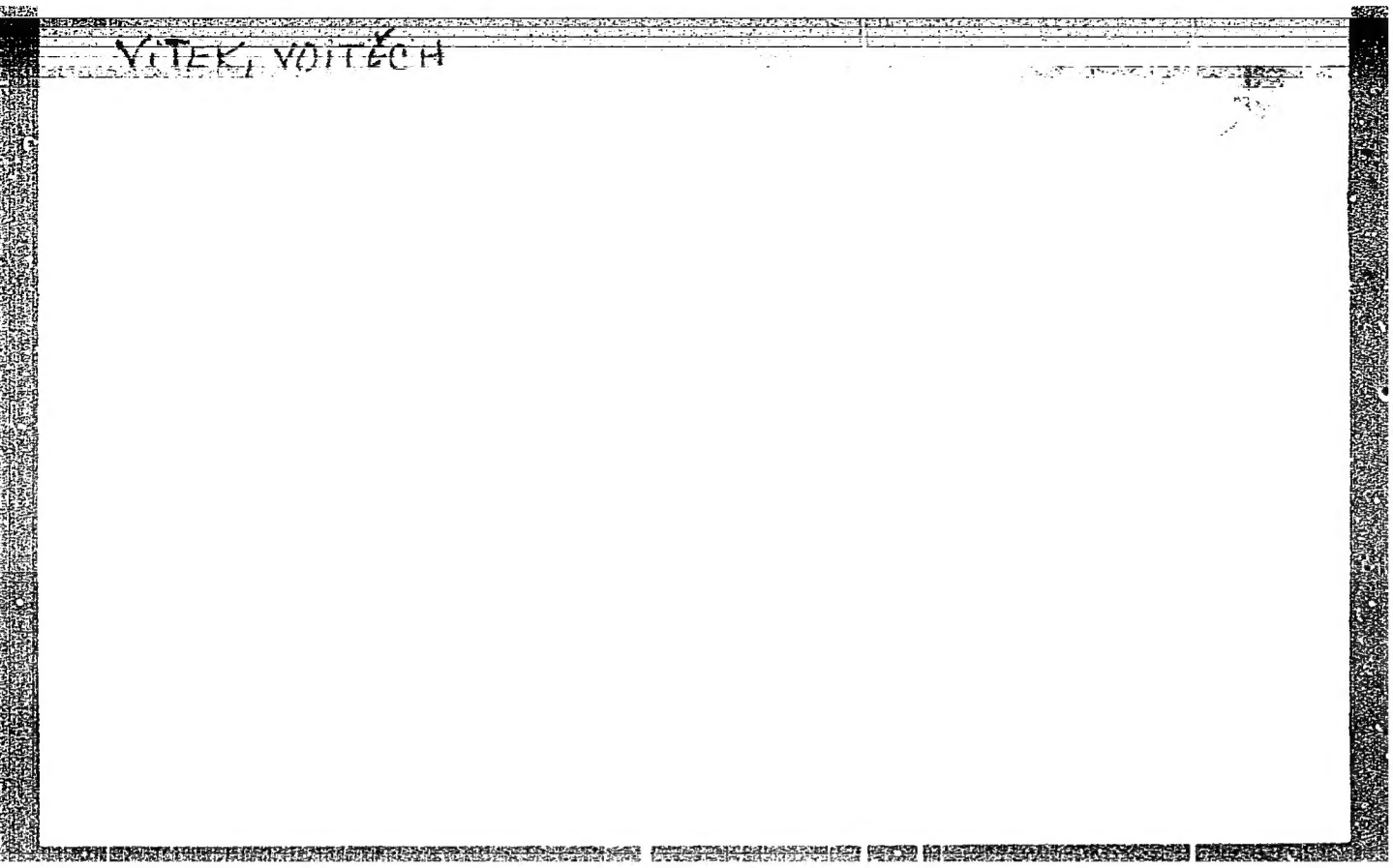
VITEK, V.

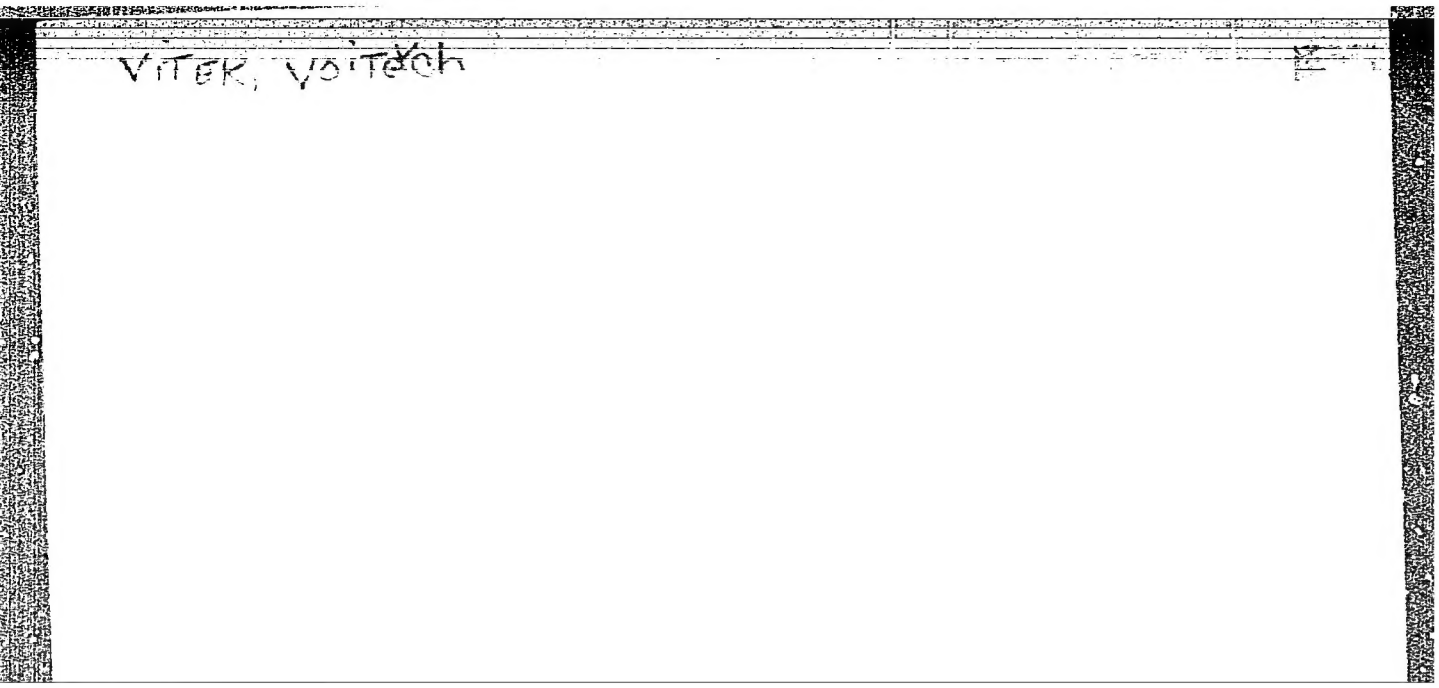
Character of horizontal circulation on the surface of nondivergence. p. 146. METEOROLOGICKE ZPRAVY. Vol. 6, no. 6. Dec. 1953.

SOURCE: East European Accessions List(EEAL), LC, Vol. 5, No. 3, March 1953.









casting. Author's abstract

VITEK, Vojtech

Dagmar Vesela, Vojtech Vitek are authors of "A Contribution to the Physical Interpretation of the Eliassen Model, which appeared in Meteorologicke Zpravy, Vol. IX, No. 3, Prague, 30 Jun 56, pp 58-81.

VITEK, V.

VITEK, V. A contribution to the physical interpretation of the Eliassen Model. p. 78. Vol. 9, no. 3, June 1956. METEOROLOGICKE ZPRAVY. Praha, Czechoslovakia.

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

Vitek, Vojtech

2

551.511.3:551.547.3:551.515.11

10.2-193

Vitek, Vojtěch, **Mechanismus výškových změn hladiny nondivergence.** [Mechanism of height variations of the surface of nondivergence.] *Meteorologické Zprávy*, Prague, 9(4):105-108, 1956. 5 refs., 7 eqs. Russian and English summaries p. 106. DWB—Equations are derived for the height of the level of nondivergence, assuming that the isobaric divergence is a linear function of pressure and that the direction of wind shear is constant. Variations in the height of the level of nondivergence are discussed theoretically and a possible role of this level in the mechanism of cyclogenesis is indicated. *Subject Headings:* 1. Nondivergence level 2. Cyclogenesis.—*Author's abstract.*

BM
1/1

VITEK, V.

A contribution to the study of the barotropic model of the atmosphere. Pt. 1. In Eng.

p 124 (Studia Geophysica Et Geodaetica) Vol . no 1 1957. Praha, Czechoslovakia.

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, no. 1 Jan 1958

VITEK, VOJTECH

CZECHOSLOVAKIA/Atomic and Molecular Physics - Statistical Physics. D-3
Thermodynamics

Abs Jour : Ref Zhur - Fizika, No 4, 1958, No 8005

Author : Vitek Vojtech
Inst : Not Given
Title : New Method for Quantitative Investigation of Non-adiabatic Processes.

Orig Pub : Meteorol. zpravy, 1957, 10, No 3, 63-64

Abstract : A simple method is proposed for quantitative investigation of non-adiabatic processes.

Card : 1/1

VITEK, V.

A note on the vorticity equation. p. 59

METEOROLOGICKE ZPRAVY. (Statni meteorologicky ustav)
Praha, Czechoslovakia

Vol. 12, no. 2/3, June 1959

Monthly list of East European Accessions (EEAI) LC. VOL. 9, no. 1 January 1960

Uncl.

Z/023/60/000/001/004/006
A026/A126

3.5133

AUTHOR: Vítek, Vojtěch

TITLE: Some hydrodynamic aspects of high-level cyclogenesis

PERIODICAL: Studia geoph. et geod., no. 1, 1960, 59-68

TEXT: In this paper the author tries to give a very elementary hydrodynamical interpretation of the origin of a field of motion during cutoff. The actual atmosphere was simplified as far as was physically possible. This interpretation is based on the assumption that a necessary initial condition for the whole process is zero absolute vorticity on the southern boundary of the jet stream which, for the sake of simplicity, will be regarded as a straight zonal flow. The possibility of the occurrence of negative absolute vorticity is not taken into consideration. This paper partly answers the question, whether the main features of the processes during high-level cyclogenesis can be represented by means of a simple barotropic model. The results of the paper are: a differential equation describing the field of motion during high-level cyclogenesis can be obtained from the equation of motion of horizontal friction-less flow; the physico-mathematical solution of this problem indicates similarity to a

B

Card 1/2

Z/023/60/000/001/004/006
A026/A126

Some hydrodynamic aspects ...

certain hydrodynamic problem; the production of closed cyclonic circulation around a stratospheric drop "submerged" into a jet stream can be described by means of the ageostrophic barotropic model. The author expresses his thanks to Doctor Z. Gregor for valuable discussion, and to Doctor J. Podzimek for helpful criticism of the manuscript. Reviewer: J. Podzimek. There are 7 references: 1 Soviet-bloc and 6 non-Soviet-bloc. The reference to the most recent English-language publication reads as follows: F. Defant, H. Taba: The Threefold Structure of the Atmosphere and the Characteristics of the Tropopause. Tellus, 9 (1957), 259.

ASSOCIATION: Geophysical Institute, ČAS, Prague

SUBMITTED: January 12, 1959

Card 2/2

26909
Z/023/61/000/002/005/007
A207/A126

3,5000

AUTHOR: Vítek, Vojtěch

TITLE: On the problem of cold air production beneath thunderstorm clouds

PERIODICAL: Studia Geophysica et Geodaetica, no. 2, 1961, 164-170

TEXT: This paper deals with the theoretical aspects of the law which governs the outflow of cold air from the precipitation area beneath the Cb and parameters which determine the motion of the pseudocold front. The results obtained have an orientational character mainly, and depict the conditions beneath small, isolated thunderstorm cells in cases where the vertical wind shear is not pronounced. The results also confirm the empirical fact that the production of cold air beneath a Cb is the more intensive, the stronger is the preceding updraft in the Cb. This dependence is formulated quantitatively by determining the relation between the updraft velocities and the acceleration of the pseudo-front. The time of existance of the pseudo-cold front is also determined theoretically and a relation derived for the pressure rise connected with its arrival.

Card 1/2

26909
Z/023/61/000/002/005/007
A207/A126

On the problem...

The proposed model of the process should quantitatively explain the main features of the outflow of cold air, but not the details. In a more detailed elaboration some of the physico-chemical processes influencing the precipitation mechanism in a Cb would have to be taken into consideration and a more detailed study made of the hydrodynamic and thermodynamic side of the process. The author continues by treating the problem mathematically. The author thanks Dr. J. Podzimek for helpful criticism. There are 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: H.R. Byers: Thunderstorms.Comp. of Meteorology, Am. Meteor. Soc., Boston 1951. T. Fujita: Precipitation and Cold Air Production in Mesoscale Thunderstorm Systems. Journal of Meteor., 16 (1959), 454. C.M. Guldberg, H. Mohn: Studies on the Movements of the Atmosphere. The Mechanics of the Earth's Atmosphere, Smithsonian Inst., Washington 1910.

ASSOCIATION: Geophysical Institute, Czechosl. Acad. Sci., Prague

SUBMITTED: October 21, 1960

Card 2/2

VITEK, Vojtech; VITKOVA, Dagmar

On the theory of equatorial westrelies. Studia geophys 6 no.1: 102-103 '62.

1. Meteorological Laboratory, Czechoslovak Academy of Sciences, Prague; Hydrometeorological Institute Prague. Address: Bocni II, Praha 4 - Sporilov; Praha, Ruzyne, letiste.

Z/023/62/000/002/001/001
D006/D102

AUTHORS: Vítek, Vojtěch, and Zikmunda, Otakar

TITLE: A proposal of a method for objective forecast of the 300-mb level

PERIODICAL: Studia geophysica et geodaetica, 6, no. 2, 1962, 202-205

TEXT: A prognostic equation for forecasting the changes in the 300-mb isobaric level is developed. Introducing specified simplifying conditions, this equation is reduced to a very simple expression which lends itself readily to graphical integration. A statistical evaluation of some forecasts made according to this method indicates that the calculated correlation coefficients are approximately comparable to those of the 500-mb level, but the mean square errors are larger. A final conclusion as to the adequacy of the method cannot be made at the present time due to the small number of tests made so far. The tests are being continued to determine to what extent the found errors were due to a random preselection of weather situations. The theory of this method was originally presented at a seminar of the Hydrometeorological Institute held on January 13, 1960

Card 1/2

Z/023/62/000/002/001/001
D006/D102

A proposal of a method ...

in Prague. There are 2 figures and 2 tables. (Technical editor: S. Brandejs)

ASSOCIATION: Laboratory for Meteorology, Czechoslovak Academy of Sciences, Prague

SUBMITTED: September 9, 1961

Card 2/2

VITEK, Vojtech

The origin of the subtropical anticyclones. Studia geophys 6 no.4:400-406 '62.

1. Laboratorium fur Meteorologie, Tschechoslowakische Akademie der Wissenschaften, Praha 4 - Sporilov, Bocni II.

VITKOVA, D.; VITEK, V.

Some dynamic conditions for the existence of equatorial zonal flow. Meteor zpravy 15 no.2:33-34 '62.

1. Hydrometeorologicky ustav, Laborator meteorologie, Ceskoslovenska akademie ved.

VITKOVA, D.; VITEK, V.

Remarks on the kinetic energy of atmospheric circulation.
Meteor zpravy 15 no.3/4:104-105 Ag '62.

1. Hydrometeorologicky ustav, Laborator meteorologie, Ceskoslovenska akademie ved.

METEOROLOGY - THERMODYNAMICS OF FLUIDS

GREGOR, Zdenek; VITEK, Vojtech

Waves and vorices in easterly flow in West Africa. Studia geophys 7 no.1:53-67 '63.

1. Hydrometeorological Institute, Prague, Komorany u Prahy, No.1, p. Modrany; Laboratory of Meteorology , Czechoslovak Academy of Sciences, Praha 4 - Sporilov, Bocni II.

VITEK, V.

"Meteorology of Jet Streams" by E.R. Reiter. Reviewed by V.Vitek.
Jaderná energie 9 no.8:276 Ag '63.

MALON, S.; VITEK, V.; ZIKMUNDA, O.

Numerical forecast of the pressure field in the middle troposphere by means of the Ural 1 computer. Meteor zpravy 16 no.5: 118-123 0'63.

KOUTECKY, J.; PALDUS, J.; VITEK, V.

Calculation of the positions of the α- and β- bands in the electronic spectra of benzenoid hydrocarbons using the method of limited configuration interaction. Coll Cz Chem 28 no.6:1468-1482 Je '63.

1. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague and Mathematical-Physical Faculty, Charles University, Prague.

HASMAN, J., promovany matematik; VITEK, V., promovany fyzik

Calculation of geometric and static characteristics of blade shapes. Strojirenstvi 14 no. 3: 234 Mr '64.

1. Zavody V. I. Lenina, Praha.

VITEK, Vojtech

Remarks on the theory of subtropical anticyclonic circulation. Studia geophys 8 no. 2:182-191 '64.

1. Institute of Atmosphere Physics, Czechoslovak Academy of Sciences, Prague 4 - Sporilov Bocni II.

L 31425-66 FCC

ACC NR: AP6022981 SOURCE CODE: CZ/0085/65/000/003/0053/0055

AUTHOR: Vitek, Vojtech

ORG: UFA CSAV, Prague

TITLE: Contribution to the interpretation of occlusive effects

SOURCE: Meteorologicke zpravy, no. 3, 1965, 53-55

TOPIC TAGS: cloud physics, atmospheric front, atmospheric model

ABSTRACT: On the basis of a generalized advective baroclinic model in linearized form it is shown that the combined influence of friction and latent heat release tends to accelerated a cold front and decelerate a warm front, thus leading to occlusion of the frontal wave. Orig. art. has: 20 formulas. [Based on author's Eng. abst.] [JPRS]

SUB CODE: 04 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 007

Card 1/1 UDC: 551.515.8

L 31421-66 FCC GW/WS-2

ACC NR: AP6022983 SOURCE CODE: CZ/0085/65/000/003/0063/0065

AUTHOR: Cechova, Eva; Vitek, Vojtech

ORG: UFA CSAV

TITLE: Remarks on the study of the ellipticity of the circumpolar vortex by means of zonal harmonic analysis

SOURCE: Meteorologicke spravy, no. 3, 1965, 63-65

TOPIC TAGS: atmospheric pressure, vortex, atmospheric model, heat source, harmonic analysis, atmospheric property

ABSTRACT: The ellipticity of the circumpolar vortex is studied by means of zonal harmonic analysis of the pressure field for 45° N. On the basis of a simple theoretical model, a relation is shown between the second harmonic component of the pressure field and large scale heat sources induced by the locations of the oceans and continents. Orig. art. has: 2 figures and 9 formulas. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 04 / SUBM DATE: none / SOV REF: 001 / OTH REF: 013

Card 1/1

UDC: 551.515.3 (98)

L 34689-66 EWT(1)/FCC/T IJP(c) GW/WS-2
ACC NR: AP6025863 SOURCE CODE: CZ/0023/65/009/003/0308/0310

4/5
B

AUTHOR: Vitek, Vojtech

ORG: Institute of Physics of the Atmosphere, CSAV, Prague

TITLE: One integral of equations of motion of relative horizontal flow

SOURCE: Studia geophysica et geodastica, v. 9, no. 3, 1965, 308-310

TOPIC TAGS: motion equation, atmospheric front, air flow

ABSTRACT: An integral of equations of motion is derived, corresponding to translational, unstable, trochoidal waves on the interface of two zonal flows. The form of the interface changes, during development of the wave, from an ordinary trochoid to cycloids. Numerical estimates show that those waves correspond schematically to short waves on quasistationary atmospheric fronts. Orig. art. has: 7 formulas. [Orig. art. in Eng.] [JPRS: 32,859]

12

SUB CODE: 04, 20 / SUBM DATE: 21May64 / SOV REF: 001

Card 1/2 UDC

0916 0994

VITEK, Vl.; RYSANEK, K.; VOJTECHOVSKY, M.; VEJDOVSKY, R.

Preliminary information on the mechanism of psychotropic action of cycloserine isomers. Activ. nerv. sup. 5 no.2:168-170 My '63.

1. Vyzkumny ustav experimentalni terapie, Praha - Interni katedra UDL, Praha - Ustav pro vyzkum vyvivy lidu, Praha - Oddeleni tbc pri Thomayerove nemocnici, Praha.
(CYCLOSERINE) (CENTRAL NERVOUS SYSTEM)
(ELECTROENCEPHALOGRAPHY) (INDOLACETIC ACID)
(URINE) (KYNURENINE) (TRYPTOPHAN)

VOJTECHOVSKY,M.; VITEK,V.; RYSANEK, K.

Psychopharmacology from the viewpoint of experimental biochemistry. Cesk. psychiat. 59 no.6:402-406 D'63.

1. Ustav pro vyzkum lidu v Praze; Vyzkumny ustav experimentalni terapie v Praze a interni katedra UDL v Praze.

RYSANEK, K.; VITEK, V.; VOJTECHOVSKY, M.; KUHN, E.

Effect of fenoharman on the excretion of 5-hydroxyindolacetic and 3-methoxy-4-hydroxymandelic acid in man. Cas. lek. cesk. 102 no.40:1099-1102 4 O '63.

1. Interni katedra Ustavu pro doskolovani lekaru, Vyzkumny ustav experimentalni terapie v Praze, reditel doc. dr. O. Smahel, DrSc. Ustav pro vyzkum vyzivy lidu v Praze, reditel prof. dr. J. Masek, DrSc.

(MANDELIC ACID) (INDOLACETIC ACID)
(ARGENTAFFINOMA) (SEROTONIN) (INDOLES)

NOVITSKI, Y. [Novitsky, I.]; VITEK, Y. [Viten, I.]

Symmetry of the radix pulmonis and of the pulmonary vessels. Vest. rent. i rad. 36 no. 1:62-63 Ja-F '61. (MIRA 14:4)

1. Iz radiologicheskoy kliniki Meditsinskoy akademii v Krakove (dir. - prof. S.Yanushkevich).
(SYMMETRY (BIOLOGY)) (LUNGS—RADIOGRAPHY)

VLTEK, Z.

2819. ON THE SURGICAL TREATMENT OF CONSTRICTIVE PERICARDITIS WITH REGARD TO THE EXTENT OF DECORTICATION AND CHOICE OF OPERATIVE APPROACH - Příspěvek k chirurgické léčbě konstrikční perikarditidy se zřetelem k rozsahu dekortikace a volbě přístupové cesty - Vítek Z. II.Chir. Klin., Brno - ROZHL.CHIR. 1957, 36/6 (353-356) Illus. 7

The advantages and advisability of a bilateral transpleural and trans-sternal approach as proposed by Johnson are underlined.

VITEK, Z.

NAVRATIL, Jan; BRAZDA, Ludvik; HRDLICA, Miloslav; OLEJNIK, Oldrich; VITEK, Zdenek

Repair of defects of cardiac septum in open-heart surgery in hypothermia. Rozhl. chir. 36 no.11:763-771 Nov 57.

1. II chirurgicka klinika MU v Brne, prednosta prof. Jan Navratil.
(CARDIAC SEPTUM, abnorm.
surg., open-heart surg. in hypothermia (Cz))
(HYPOTHERMIA,
in open-heart surg. for abnorm. of cardiac septum (Cz))

VITEK, Zdenek, Dr.

NAVRATIL, Jan, Dr.; [illegible], [illegible], Dr.; [illegible]LKA, [illegible], Dr.; [illegible], Dr.; [illegible], [illegible], Dr.; VITEK, Zdenek, Dr.

Our experiences in surgical treatment of coarctation of the aorta. Rozhl. chir. 35 no.9:[illegible]-5[illegible] Aug [illegible].

1. Z II chirurgicke kliniky MU v Brne, prednosta prof. Dr. Jan Navratil.

(COARCTATION OF AORTA, surg. (Cz))

VITEK, Zdenek, MUDr.

Surgery of constructive pericarditis with regard to the extent of decortication and choice of operative approach. Rozhl. chir. 36 no.6:353-356 June 57.

1. II chirurgicka klinika v Brne, prednosta prof. MUDr Jan Navratil.
(PERICARDITIS, ADHESIVE, surg.
extent of decortication & choice of approach to mediastinum (Cz))

NAVRATIL, Jan; BRAZDA, L.; HRDLICA, Mil.; OLEJNIK, O.; SRAMEK, Zd.; VITEK, Zd.

Transaortic commissurotomy in stenosis of aortic valve. Cas. lek. cesk. 96 no.6:173-179 8 Feb 57.

1. II Chirurgicka Klinika MU v Brne. Prednosta: prof. MUDr. Jan Navratil. J. N., Brno, II. Chirurgicka Klinika.

(AORTIC VALVE, stenosis
surg., transaortic commissurotomy (Cz))
(COMMISSUROTOMY, in various dis.
transaortic, in aortic valve stenosis (Cz))

VITEK, ZDENEK, MUDr.

SRAMEK, Zdenek, MUDr.; VITEK, Zdenek, MUDr.

Regional gangrenous enteritis; clinical aspects of surgical forms of enteritis hemorrhagica necrotisans. Rozhl. chir. 36 no.3:165-170 Mar 57.

1. II. Chirurgicka klinika MU v Brne, prednosta prof. JUDr. Jan Navratil.

(ILEITIS, REGIONAL, case reports
gangrenous (Cz))

VITEK - Z. Dr.

HAVRATIL, Jan, prof. Dr; HRAZDA, L., Dr; HRDLICA, Mil., Dr; SRAMEK, Zd., Dr; VITEK, Zd., Dr ; OLEJNIK, O., Dr

Surgical treatment of mitral stenosis. Lek. listy, Brno 9 no.22: 516-520 15 Nov 54.

1. Z II. chirurgicke kliniky M.U. v Brne, Prednosta prof. MUDr J.Havratil a z II. vnitrni klinikh M.U. v Brne. Prednosta prof. MUDr J.Polcak.

(MITRAL STENOSIS, surgery,)

VITELIS, M. F.

Montazh Elevatorov (The Assembly of Elevators, By) L. A. Arkhangorodskiy i M. F. Vitelis. Moskva, Zagotyzgat, 1954.
479 P. Illus., Diagrs., Tables.
"Literature": P. 418-419.

ARKHANGORODSKIY, L.A.; VITELIS, M.F. [deceased]; GRIGOR'YEVA, K.P., inzhener, redaktor; LAZAREVSKIY, L.I., redaktor; LABUS, G.A., tekhnicheskiy redaktor

[Assembly of elevators] Montazh elevatorov. Pod red. K.P.Grigor'eva. Moskva, Gos. izd-vo tekhn. i ekon. lit-ry po voprosam zagotovok, 1951. 479 p. [Microfilm] (MLRA 10:1)
(Grain elevators)

VITEL'S, G.L.

Widening the oscillation zones in magnetrons equipped with small segments. Izv.vys.uchab.zav.; radiofiz. 1 no.4:105-110 '58. (MIRA 12:5)

1. Saratovskiy gosudarstvennyy universitet.
(Magnetrons)

ACCESSION NR: AP5000462 S/0109/64/009/012/2189/2191

AUTHOR: Vitel's, G. L.; Larin, Ye. A.

TITLE: Determining the frequency characteristics of voltage-tunable magnetron

SOURCE: Radiotekhnika i elektronika, v. 9, no. 12, 1964, 2189-2191

TOPIC TAGS: voltage tunable magnetron, magnetron, magnetron characteristic

ABSTRACT: An attempt is made to develop a formula for the frequency of a [illegible] mode and geometry [illegible]

Only a [illegible] formula [illegible] voltage is applied [illegible] frequency characteristic computed from this formula is reported to be in good agreement with the experimental data published by H. W. Welch (Proc. IRE, [illegible] formulas.

ASSOCIATION: none

SUBMITTED: 29Dec63 ENCL: 00

SUB CODE: EC NO REF SOV: 004 OTHER: 004

Card 1/1

VITEL'S, G.L.; LARIN, Ye.A.

Determination of frequency characteristics of voltage tuned magnetrons. Radiotekh. i elektron. 9 no.12:2189-2191 D '64 (MIRA 18:1)

AUTHOR: Gershteyn, G. M., and Vitel's, G. L.

TITLE: Expansion of Oscillatory Regions of Decimeter-Band Magnetrons. A Short Report (O rasshirenii kolebatel'nykh zon magnetronov detsimetrovogo diapazona. Kratkoye soobshcheniye)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol 2, Nr 1, pp 120-121 (USSR)

ABSTRACT: Split-anode magnetrons with a small number of segments and Lecher-type resonant lines may be used as easily tunable higher-frequency oscillators of the decimeter band. Results of experiments with 4- and 6-segment magnetrons having a thin cathode and a Lecher frame functioning in a nonresonant region are reported. The anode radius of the magnetron was 0.5 cm, cathode radius, 0.015 cm; straps were used to secure π-mode oscillations. At an anode voltage within 1,000 to 3,000 volts and at a higher-than-critical magnetic field, an aperiodic load can bring about an appreciable expansion of the oscillatory region and, consequently, a possibility of obtaining a higher frequency deviation corresponding to a given anode-voltage change. The frequency deviation may reach $\pm$ 10%. The maximum width of the oscillatory region was obtained with small anode currents.

109-2-1-15/17

Expansion of Oscillatory Regions of Decimeter-Band Magnetrons. A Short Report

There are 3 figures and 4 references in the article.

ASSOCIATION: Kafedra radiofiziki, Saratovskiy universitet (Chair of Radiophysics, the Saratov University)

SUBMITTED: January 14, 1956

AVAILABLE: Library of Congress

1. Oscillators 2. Magnetrons--Applications 3. Magnetrons--Test methods

Card 2/2

GERSHTEYN, G.M.; VITKL'S, G.L.

Widening the oscillating zones of decimetric band magnetrons.
Radiotekh.i elektron. 2 no.1:120-121 Ja '57. (MLRA 10:2)

1. Saratovskiy universitet, kafedra radiofiziki.
(Magnetrons)

S/194/62/000/006/150/232
D201/D308

9,4210

AUTHOR: Vitel's, G.L.

TITLE: Frequency modulation of travelling wave laboratory magnetrons of the decimetric wave-range

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, 14, abstract 6Zh102 (Nauchn. yezhegodnik. Saratovsk. un-t. Fiz. fak. i N.-i. in-t mekhan. i fiz. 1955, Saratov, 1960, 111-116)

TEXT: The dependence of magnetron frequency on anode voltage is determined on the basis of expressions for the HF conductivity, for thin cathode magnetrons having a small number of segments. It is shown that it is possible to obtain frequency modulation with sufficiently large frequency deviation in decimeter range magnetrons. The results of theoretical calculations are in satisfactory agreement with experiment. [Abstracter's note: Complete translation.]

VB

Card 1/1

06496
SOV/141-58-4-12/26

AUTHOR: Vitel's, G.L.

TITLE: On the Problem of Widening the Oscillation Zones of Magnetrons Consisting of a Few Segments (K voprozu o rasshirenii zon kolebaniy malosegmentnykh magnetronov)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1958, Nr 4, pp 105-110 (USSR)

ABSTRACT: A number of experiments were carried out on few-segment magnetrons (Ref 4 and 5) which operated with a non-resonant anode load in strong magnetic fields (about two times higher than the critical field). The experiments showed that it was possible to obtain frequency modulation over a range of about ± 10% of the centre frequency. It was found that the frequency characteristics are represented by the following expression:

$$\lambda(\text{cm}) = \frac{942\, r_a^2 H}{pU_a} \qquad (1)$$

06496

SOV/141-58-4-12/26

On the Problem of Widening the Oscillation Zones of Magnetrons Consisting of a Few Segments

In the present work the attempt was made to employ a two-conductor line as a wide-band anode load. The magnetrons used in the experiments had the anode radius $r_a = 0.5$ cm, $l_a = 1.5$ cm (the length of the anode), $r_k = 0.015$ cm (radius of the cathode) and the number of segments N was 2, 4 or 6; the segments were strapped in pairs in order to obtain the π-mode of oscillations. During the experiments, the supply voltages were carefully stabilized; in particular, the heaters were supplied from accumulators while the anode voltage was provided by a low-ripple stabilized supply. The electromagnet was supplied from a constant current generator operating at 120V. The experimental results are shown in Fig 3, 4, 5, 6 and 7. Fig 3 illustrates the frequency dependence on the anode voltage for a magnetic field H = 1200 Oe for various heater currents J_H; the length of the anode line was 5 cm and the tube employed two segments. Fig 4 represents the frequency characteristic of a two-segment magnetron,

Card 2/4

On the Problem of Widening the Oscillation Zones of Magnetrons Consisting of a Few Segments

when the anode circuit was in the form of short-circuited Lecher wires whose length was varied from 4 to 20 cm. Fig 5 represents the frequency dependence of a two-segment magnetron on the length of the anode line. Similar investigations were done on a six-segment magnetron and the results are shown in Fig 6 for various lengths of the anode line. Fig 7 illustrates the frequency-voltage dependence of a six-segment magnetron in which an anode circuit was in the form of an open-circuit Lecher wire. From the above experimental data it is concluded that, in the magnetrons consisting of a few segments, it is possible to obtain a voltage dependent frequency change of the order of $\pm$ 10%; the oscillations produced are of the π-type mode and obey the Postumus equation. The author expresses his

06496

SOV/141-58-4-12/26

On the Problem of Widening the Oscillation Zones of Magnetrons Consisting of a Few Segments

gratitude to G.M.Gershteyn for valuable advice. There are 7 figures and 7 references, 3 of which are Soviet, 3 English and 1 French.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet (Saratov State University)

SUBMITTED: 8th January 1958

Card 4/4

VITELS, L. A.

"Determining the Index of Circulation According to Data of the Synoptic Catalog," No 5, pp 39-48.
(Meteorologiya i Gidrologiya, No 6 Nov/Dec 1947)

SO: U-3218, 3 Apr 1953

VITEL'S, L.A.

Group characteristics of analogues. Meteor. i gidrol. no.4:31-37 '48. (MLRA 8:2)
(Weather forecasting)

V[illegible], I. S.

"Several Years' Variations in Barometric Circulation Conditions and Their Influence on Climatic Variations", Trudy GGO, No 8, 1948 (RZhMet, 1949)

SO: U-3039, 11 Mar 1953

VITEL'S, L. A.

Vitel's, L. A. - "Magnetic storms as a solar indication of atmospheric circulation", Byulleten' Komissii po issledovaniyu Solntsa (Akad. nauk SSSR), No. 1, 1949, p. 38-48.

SOLAR RESEARCH

SO: U-4631, 16 Sept. 53, (Letopis 'Zhurnal 'nykh Statey, No. 24, 1949).

VITEL'S, L. A.

Vitel's, L. A. - "The characteristics of the barometric circulation cycle and their utilization in long-range prognosis of seasonal characteristics of the circulation," Trudy Glav. geofiz. observatorii. Issue 15, 1949, p. 116-42, - Bibliog: 5 items

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

USSR/Geophysics - Cyclones Jul/Aug 52

"Calender Peculiarities in the Fluctuations in Intensity of Icelandic and North European (cyclones," L.A. Vitel's, Cen Geophys Obs

"Iz Ak Nauk SSSR, Ser Geofiz" No 4, pp 98-102

On the basis of 40 years' data, the author observed fluctuations in intensity of Icelandic and North European cyclones which (fluctuations) are connected with definite calender dates during certain months. Period of oscillations are close to Mul'tanovskiy's synoptic period. Fluctuations in

220T55

VITELS, L. A.

Intensity of cyclones over Europe and the North Atlantic are effected in opposite phases in accordance with V.V. Shuleykin's scheme of thermobaric tides. Submitted 23 Oct 51.

220T55

VITEL'S, L.A
VITEL, L. A.

USSR/Meteorology - Precipitation Aug 52

"Equinoctial Effect on Anomalies of Precipitations and Perennial Variations of This Effect," L. A. Vitel's, Leningrad Main Geophys Obs imeni Voyeykov

"Meteorol i Gidrol" No 8, pp 3-8

Conclusions from previous works (cf. Vitels, "Meteorol i Gidrol" No 3, 1952; "Trudy GGO," 6, 70, 1948) showed annual regularity of anomalies. Results of further investigations by author showed perennial variations of corpuscular solar radiation, influencing in various ways the

229T101

cyclic and anticyclic circulation. Notes that these differences are particularly conspicuous at the end of the considered period, i.e., during "anomalous" solar cycles.

229T101

VITEL'S, L. A.

AID P - 2621

Subject : USSR/Meteorology

Card 1/2 Pub. 71-a - 24/26

Authors : Vitel's, L.A.; A.I. Sorokina and K. M. Sirotov; A.G. Bulavko; O.N. Mel'nichuk; B.S. Belov; S. M. Seleznev

Title : Scientific meetings and conferences

Periodical : Met i gidr, 4, 61-62, Jl/Ag 1955

Abstract : The article reports on different conferences of the Oceanographic Commission of the Geographic Society in Leningrad devoted to the new research on the Sun and its functions, and to the annual issue on hydrometeorological observations of the sea. Another conference was held in Minsk where hydrological research problems were considered. A conference held in Chernovitsy discussed the problems of short-range forecasting. A conference of the Sverdlovsk Scientific Research Geophysical Observatory reported their findings on electricity in thunderclouds and on diurnal temperature changes.

AID P - 2621

Met i gidr, 4, 61-62, J1/Ag 1955

Card 2/2 Pub. 71-a - 24/26

Institution : None

Submitted : No date

VITEL'S, L.A.

Scientific meeting on the problem "Sun and the earth." Izv.Vses. geog.ob-va 87 no.6:565-568 N-D '55. (MLRA 9:3)
(Sun) (Earth)

VITEL'S, L.A.

36-65-2/10

AUTHOR: Vitel's, L.A.

TITLE: Characteristics of Long-Range Variations in the Atmospheric Circulation of Western Europe and Western Siberia Related to the 11-year Solar Cycle (O nekotorykh osobennostyakh mnogoletnikh kolebaniy atmosfernoy tsirkulyatsii v zapadnoy Yevrope i zapadnoy Sibiri, svyazannykh s odinnadtsatiletnim solnechnym tsiklom)

PERIODICAL: Trudy Glavnoy geofizicheskoy observatorii, 1956, Nr 65(127), pp. 5-7 (USSR)

ABSTRACT: The article discusses the difficulties of long-range prognostication. In order to facilitate the solution of such problems, only one element is selected--the variations of atmospheric circulation related to the 11-year solar cycle, as expressed by the recurring monthly anomaly of the baric- circulation cycle. There are 1 figure and 3 references, all USSR.

AVAILABLE: Library of Congress

Card 1/1

VITEL'S, L.A.; KASOGLEDOVA, S.V.

New scheme of determining and allowing for various prognostications in the synoptic-climatological method of long-term precipitation predictions. Trudy GGO no.164:29-42 '64. (MIRA 17:9)

VITEL'S, L.A.

Meeting of the Main Geophysical Observatory devoted to Voeikov.
Izv.Vses.geog.ob-va 88 no.4:414-419 Jl-Ag '56. (MLRA 9:10)

(Voeikov, Aleksandr Ivanovich, 1842-1916)

VITEL'S, L. A.

BROUNOV, Petr Ivanovich; USMANOV, R.F., redaktor-sostavitel'; VITEL'S, L.A., otvetstvennyy red.; PISAREVSKAYA, V.D., red.; BRAYNINA, M.I., tekhn. red.

[Selected works] Izbrannye sochineniia. Leningrad, Gidrometeor. izd-vo. Vol.1. [Synoptic meteorology] Sinopticheskaia meteorologiia. 1957. 302 p. (MIRA 11:2)
(Meteorology)

VITEL'S, L.A. Cand Geog Sci (diss) "Baromctric circulatory regime of the European natural synoptic region and its alterations over long periods."

Len, 1957 16 pp 21 cm. (Main Administration of Hydro-meteorol Service under the USSR Council of Ministers Main Geo-Phys Observatory im A.I. Voyeykov)

100 copies

(KL, 12-57, 104)

VITEL'S, L.A.

Solar nature of atmospheric rhythms. Trudy TSIP no.51:22-43 '57.
(Meteorology) (MLRA 10:8)

VITEL'S, L. A.

3(8) PHASE I BOOK EXPLOITATION SOV/2270

Glavnaya geofizicheskaya observatoriya

Voprosy sinoptichesko klimatologii. (Problems in Synoptic Climatology) Leningrad, Gidrometeoizdat, 1959. 105 p. (Series: Its: Trudy, vyp. 87) 1,100 copies printed.

Sponsoring Agency: Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR.

Ed. (Title page): T.V. Pokrovskaya, Candidate of Geographical Sciences; Ed. (Inside book): T.V. Ushakova; Tech. Ed.: A. N. Sergeyev.

PURPOSE: This issue of the Observatory's Transactions is intended for meteorologists and climatologists.

COVERAGE: The authors are primarily concerned with the possibility of using various monthly characteristics of atmospheric circulation in forecasting monthly air temperature anomalies. One of the articles discusses the inertia of the temperature and its utilization in forecasting. Other articles are concerned with the effects of solar activity on atmospheric circulation. The last article is devoted to the probability of cyclical regional distribution of mean negative diurnal temperatures, offering also a synoptic and climatological analysis of the results obtained. References accompany each article.

TABLE OF CONTENTS:

AVAILABLE: LIBRARY OF CONGRESS

MM/ac
9-21-59

Card 3/3

L 60930-65

551.50

Vitel's, Lazar' Abramovich

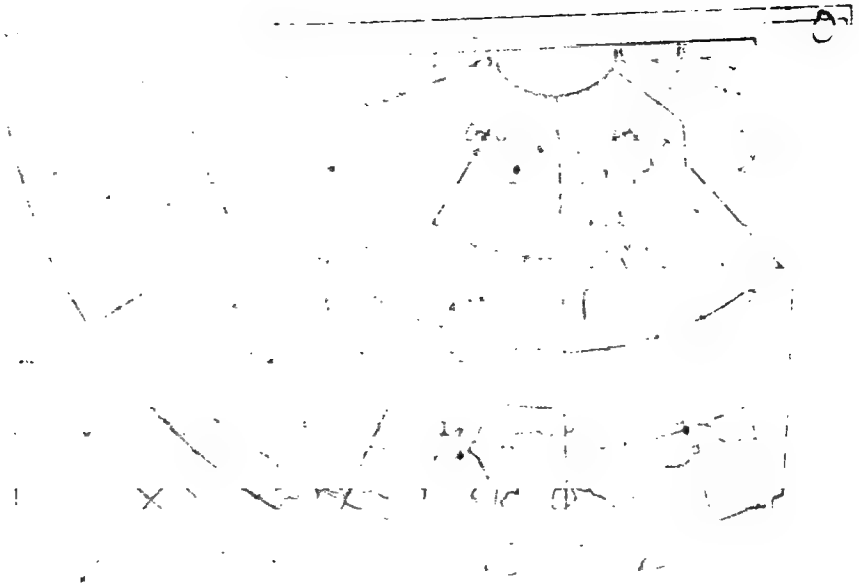
Monthly, seasonal and annual characteristics of the barometric circulation

TOPIC TAGS: atmospheric circulation, synoptic meteorology, weather forecasting, climatology, anticyclone, cyclone

PURPOSE AND COVERAGE: The book is a collection of 75 tables containing long-range [illegible] data on the [illegible] circulation in the North Atlantic and the Eurasian continent [illegible] known in Russian meteorological literature as Multianovariyle first natural synoptic region. The data are based on the [illegible] catalog for the period [illegible]

Card 1/4

L 60930-65



L 60930-65

ACCESSION NR AM5021429

C

[illegible] and circulation values are presented by

[illegible]

European [illegible]

Baric fields and associated types of circulation are divided in terms of [illegible] an 11-point scale [illegible] the center [illegible] mb [illegible] with a low-pressure corridor [illegible] trough or [illegible] center [illegible] 1005 mb; [illegible] cyclone with pressure at [illegible]

Card 3/4

L 60930-65

ACCESSION NR AM5021429

A foreword to the tables provides information on their origin, deriva-

by trends in particular

TABLE OF CONTENTS (abridged):

Introduction — 3
Bibliography — 12
Tables — 1?

SUBMITTED: 05Apr65 SUB CODE: ES

Card 1/1

VITEL'S, Lazar' Abramovich; BELEN'KAYA, L.L., red.

[Monthly, seasonal, and annual characteristics of the barometric circulation regime of the European natural synoptic region, 1900-1964] Mesiachnye, sezonnye i godovye kharakteristiki bariko-tsirkuliatsionnogo rezhima evropeiskogo estestvennogo sinopticheskogo raiona 1900-1964 gg. Leningrad, Gidrometeoizdat, 1965. 127 p.
(MIRA 18:6)

VITEL'S, L.A., kand. geograf. nauk

Use of the synoptic-climatological method in forecasting the flow regime of rivers. Meteor. i gidrol. no.12:46-49 D '64 (MIRA 18:1)

1. Glavnaya geofizicheskaya observatoriya.

VITEL'S, L.A.; ROMASHKINA, S.B.

Inertial connection between winter and spring atmospheric temperature anomalies in the European part of the U.S.S.R. Trudy GGO no.148:38-58 '63. (MIRA 16:6)
(Atmospheric temperature)

VITEL'S, L.A.

Anomalies in the cyclic rate of solar activity and the tendencies of current climatic variations. Trudy GGO no.133:35-54 '62. (MIRA 16:2)

(Climatology) (Solar radiation)

KHAZENSON, L.B.; FRIDMAN, E.A.; VITEL'S, L.A.; SHVER, TS.A.

Influence of meteorological factors on the incidence of influenza and acute catarrh of the respiratory tracts. Trudy Len.inst. epid.i mikrobiol. 22:166-173 '61. (MIRA 16:2)

1. Iz laboratorii grippa (zav. E.A. Fridman) i sektora epidemiologii (zav. I.M. Ansheles [deceased]) Leningradskogo instituta epidemiologii i mikrobiologii imeni Pastera i otdela klimatologii Glavnoy geofizicheskoy observatorii (zav. V.P. Pastukh).
(LENINGRAD--INFLUENZA) (LENINGRAD--CATARRH)
(LENINGRAD--WEATHER--MENTAL AND PHYSIOLOGICAL EFFECTS)

S/531/62/000/133/001/004
A052/A126

AUTHOR: Vitel's, L. A.

TITLE: The anomaly of cyclic processes of solar activity and the tendency of present climate variations

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy. no. 133, 1962, Voprosy obshchey i sinopticheskoy klimatologii, 35 - 54

TEXT: A method of determining annual anomalies of solar activity considering an 11-year cyclicity is suggested, Wolf's number standards for each year of the 11-year cycle are determined, deviations from these standards in absolute and relative units for all years beginning with 1749 are computed, a high degree of uniformity of anomalies within each 11-year cycle is revealed, a curve of the long-time course of Wolf's number anomalies corroborating the existence of a cycle in the order of 80 - 90 years is plotted. As a result it proved possible to divide the whole period considered into epochs characterized by clear-cut anomalies of solar activity and to state considerations as to the future long-time trend of solar activity and climate variations connected with it. As the

Card 1/4

The anomaly of cyclic processes of...

author points out, the final purpose of numerous studies of long-time changes of various climatic and hydrological characteristics is to reveal such laws of present climate variations and the factors conditioning them, which will enable one to forecast with a sufficient degree of reliability the main characteristics of future climate changes. Also the new problems connected with the large-scale projects of climate control make climate forecasting one of the most essential tasks of meteorology. Neither a mere extrapolation of long-time curves of this or that element, nor the forecasts based on different periods, as long as the physical nature of this periodicity is unclear, can serve as a basis for forecasts. At present the only serious basis for climate-variation forecasts are heliogeophysical connections, i.e., laws connecting climate variations through the mechanism of overall atmosphere circulation with the solar activity. The relative numbers of sun-spots W (Wolf's numbers) are the most widely used indices of solar activity, whereby the deviations of W from the standard computed for a sufficiently long period (200 - 250 years) are taken for anomalies of solar activity. In the reviewed study ΔW is computed in deviations from the W standard computed for each individual year of the 11-year cycle. The work is rendered complicated by the fact that the duration of solar cycles fluctuates within broad

The anomaly of cyclic processes of...

limits. So, since 1749 at an 11.1-year average cycle duration, there were very short cycles (9 years) and very long cycles (13.6 years). Following the course of ΔW and $\frac{W}{W_{av}}$ (W_{av} = the average W value in the year of maximum) the author discovers besides 11-year cycles longer epochs of similar type (the same sign of ΔW) anomalies of solar activity. These epochs are distinctly separated from each other and their boundaries in a predominant majority of cases coincide with minimum years of 11-year cycles, thus revealing the physically self-contained character of 11-year cycles. For the purpose of solar-activity forecasts the number of anomaly sign changes is important, which is determined by the equation $a = 2pqn$, where p is the probability of positive anomaly, q is the probability of negative anomaly, and n is the number of members of the series. The probable error of a is $P_a = 1.348\sqrt{pq(n-1)(1-3pq)}$. Based on his data and on the relevant literature, the author draws a conclusion on the existance of secular or 80-year cycles of solar activity which, together with the epochs established by the author (semicycles), provide a foundation for forecasts. First of all a considerable weakening of general atmosphere circulation may be expected. Especially noticeable will be the decrease of intensity of cyclone activity in high latitudes.

Card 3/4

The anomaly of cyclic processes of...

The planetary upper frontal zone in high northern latitudes will occupy a more southern position. Cyclones passing before through Soviet northern seas will move along more southern trajectories, through the northern part of the European USSR including the central regions. The processes of zonal transfer will be observed more frequently and the frequency of eastern processes will decrease. Also will decrease the change frequency of circulation forms, and the average duration of periods of one-type circulation will increase. The continental character of the climate of the European USSR and western Siberia will increase. Winter temperatures will drop, arctic intrusions will be more vigorous, and the icyness of the arctic seas will increase. The natural discharge in the Volga valley will increase. The Caspian sea level (without taking into account artificial measure and water intake from the Volga) will rise. There are 4 figures and 5 tables.

Card 4/4

VITEL'S, L.A.

Improvement and practical application of the synoptic climatological method to long-range hydrometeorological forecasting. Trudy GGO no.111:136-152 '61. (MIRA 15:1)

(Weather forecasting)

VITEL'S, L.A.

Analysis of prognostic relationships with the account of solar activity. Trudy GGO no.111:153-178 '61. (MIRA 15:1)
(Weather forecasting) (Solar radiation)

33623
S/035/62/000/001/014/038
A001/A101

3,1800 (1041,1046)
3,5000

AUTHOR: Vitel's, L.A.

TITLE: The effect of solar activity on degree of distinctness of intra-atmospheric prognostic correlations

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 1, 1962, 62, abstract 1A468 ("Solnechnyye dannyye", 1960 (1961), no. 10, 70 - 73)

TEXT: It is known that there are asynchronous correlations in the troposphere. Thus, e.g., some types of circulation anomalies may be reflected, after a few months, in one or another macrosynoptic characteristic. One of the examples of such correlations is dependence of precipitates in October in the north-west of the European part of the USSR on development of anticyclonicity in the South-Western Siberia during 12 - 13 months preceding October. The author raises the question, whether the distinctness of asynchronous correlation may be a function of the phase of 11-year solar cycle. In order to check the hypothesis advanced, L.A. Vitel's divided six 11-year cycles into 3 phases: the year of minimum and the beginning of the ascending branch (up to +2nd year from the minimum inclusive); the end of the ascending branch, the year of maximum and 2 years after

Card 1/2

33623
S/035/62/000/001/014/038
A001/A101

The effect of solar activity ...

the maximum; the descending branch beginning from the +3rd year after the maximum. Prognostic correlations proved to be of different distinctness at different phases of the 11-year cycle. In the first phase the correlation is the least pronounced, a somewhat more pronounced it is in the second phase, and the most distinct in the third phase of the 11-year cycle, when the accuracy of forecasting amounts to 100%. The author explains this correlation of intraatmospheric regularities with the phase of solar activity cycle by Sperer's law: during the third phase of the 11-year cycle the Earth is in the most favorable position in the sense of being hitted by solar corpuscles, since in this time active solar formations are distributed at the lowest heliographic latitudes. Solar effects, according to P.P. Predtechenskiy and the author, lead to ordering of atmospheric circulation and to more pronounced distinctness of intraatmospheric correlations.

B. Rubashev

[Abstracter's note: Complete translation]

Card 2/2

S/531/61/000/111/003/004
D051/D113

AUTHOR: Vitel's, L.A.

TITLE: Problems of improving and practically using the synoptic-climatologic ethod of long-range hydrometeorological forecasts

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 111, 1961. Voprosy obshchey i sinopticheskoy klimatologii, pp 136-152.

TEXT: This article deals with the practical application and improvement of the synoptic-climatologic method of long-range hydrometeorological forecasting, developed by the author at the Glavnaya geofizicheskaya observatoriya im. A.I. Voyeykova (Main Geophysical Observatory im. A.I. Voyeykov). The method is based on the presence of atmospheric processes developing regularly during seasonal, yearly or longer periods. Processes leading to large monotypic anomalies of meteorological conditions or to hydrological elements depending on atmospheric conditions have similar characteristics. The comprehensive use of meteorologic-synoptic and

Card 1/3

Problems of improving and practically...

hydrologic characteristics, as shown by A.B. Kryzhanovskaya of the Institut gidrologii i gidrotekh iki AN USSR (Institute of Hydrology and Hydraulic Engineering of the AS UkrSSR), M.I. Gurevich, V.V. Lebedeva and T.N. Makarevich, essentially improves prognostic relationships. The author stresses that his prognostic point is not the result of "the artificial selection of many variables outwardly reducible to one independent variable" as stated by N.A. Belinskiy and G.P. Kalinin (Ref. 1: Ob odnom metode prognozov gidrometeorologicheskikh elementov ["On one method of forecasting hydrometeorologic elements"]. Meteorol. i gidrol., no. 10, 1958), but a characteristic which permits quantitively evaluating the similarity between current and typical processes. The method, therefore, appears as a variation of the analogue method rather than a multiple correlation method. The numerical data of a synoptic catalogue help characterize baric and circulation conditions. Groups of events, i.e. days, months, etc., with genetically monotypic phenomena or anomalies of hydrometeorologic conditions should be selected. Sub-grouping, if required, should be considered. If the small number of events do not permit subgrouping, events whose basic characteristics differ from those of the group should be eliminated. After monotypic events have been selected

Card 2/3

Problems of improving and practically...

and groups with contrasting anomalies established, past development of processes should be studied in order to find phases showing the difference between processes leading to positive and negative anomalies of the element to be predicted. This development should be studied on qualitative and quantitative bases. On the basis of maps of baric and circulation anomalies, the months evidently contrasting in the general trend of the processes are selected. For these months, regions, which most distinctly show how these groups are contrasted, should be established. The quantitative characteristic - the frequency of the positive baric and circulation anomaly - will greatly differ for each region, and the signs of the anomaly in the corresponding region-months will appear as prognostic features. The criteria for selecting these features are discussed. M.S. Kaganer, B.P. Mul'tanovskiy and L.P. Vishnevskaya are mentioned. There are 3 figures, 2 tables and 6 Soviet references.

Card 3/3

Experimental analysis of prognostical...

atmospheric anomalies), it was found that the pronounced development of a West-Siberian anticyclone in the presence of cyclonic activity in northern Europe intensifies this activity and increases the probability of heavy precipitations, because such weather conditions favor the transfer of warm and moist air masses from the south to the European part of the USSR. An analysis of the baric and circulation conditions of the preceding months further revealed that the intense development of the West-Siberian anticyclone, which is characteristic for wet October months in the north-west European part of the USSR, is typical for nearly all months of the annual period preceding the wet October months. Under the condition that forecasts were made 1-3 months prior to the occurrence of a specific phenomenon, the reliability of the forecast of the sign of anomaly of the October precipitations was established at 64-66%. The reliability of the forecast can be increased by taking solar activity into account. It was established that the closeness of the studied prognostic relationship is subject to fluctuations depending on the phase of an 11 year solar

Card 2/3

Experimental analysis of prognostical...

cycle. It is at its maximum (above 90%) at the end of the cycle and abruptly decreases between the end of one cycle and the beginning of another one. The author considers that this solar effect is not so much due to the cyclic formation of sun spots as to the heliographic latitude of the spots and other active centers changing in accordance with the Spoerer law. In connection with heliogeophysical problems, the following scientists are mentioned: V.Yu.Vize, P.P. Predtechenskiy, E.R. Mustel', M.S. Eygenson, M.N. Gnevyshev, and R.S. Gnevysheva. There are 6 figures, 6 tables, and 12 Soviet references.

Card 3/3

S/169/61/000/008/029/053
A006/A101

AUTHOR: Vitel's, L. A.

TITLE: The effect of solar activity on the degree of closeness of intra-atmospheric prognostic connections

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 8, 1961, 47-48, abstract 8B322 ("Solnechnyy dannyye", 1960, (1961), no. 10, 70-73)

TEXT: The Sun-troposphere problem is presently being studied in two trends: 1) investigating the connection between the solar activity, expressed by Wolf numbers or other indices, and the one or another meteorological characteristic; 2) investigating the intramass asynchronous connections of prognostic significance and studying the changes in the closeness of these connections depending on variations of the solar activity. The author chose the latter method and studied the effect of solar activity on the closeness of prognostic connections, by taking into account the phases of an 11-year cycle, which differ by the mean latitude of the spotforming zone. The author analyzes the connection between October precipitates at the north-west of the European territory of the USSR (ETS) and the conditions of atmospheric circulations of the four preceding seasons.

Card 1/2

S/169/61/000/008/029/053
A006/A101

The effect of solar activity ...

As a result the prognostic symptom was obtained that before rainy Octobers, positive anomalies of circulations prevail during 12 - 13 months in South-West Siberia. This symptom is justified to 64 - 66% at 1 - 3 months in advance. The problem was set up to reveal the conditions for the most certain justification of the prognostic symptom. The 11-year cycle of solar activity was divided into 3 phases: 1) the year of the minimum and the commencement of the ascending branch (to the +2nd year from the nimimum), 2) the end of the ascending branch, the year of maximum and two years following the maximum; 3) the last years of the descending branch of the cycle. It was found that the percentage of justifying the prognostic symptom was least in the first phase and highest in the third phase. This result is explained by the effect of variability in the mean latitude of spot formation and conditions of arrival on the Earth of geoactive radiation. At the beginning of the 11-year cycle new spots appear in the highest latitudes of the spot formation zone; therefore the conditions of solar activity are least favorable. By the third phase, the latitude decreases and the effect of geoactive radiation on atmospheric processes increases. As a conclusion the author mentions the significant part of the degree of stability of the solar rythm, connected with the 27-day cycle, on the atmosphere.

R. Maslennikova

[Abstracter's note: Complete translation]

Card 2/2

VITEL'S, L.A.

Solar index α. TSir.Astron.obser. L'viv.un. no.34:3-10 '58.
(MIRA 13:10)

1. Glavnaya geofizicheskaya observatoriya im. A.I.Voyeykova.
(Sun)

VITEL'S, L.A.

Possible cause of changes in solar-atmospheric relationships. (MIRA 13:7)
Meteor.i gidrol. no.7:9-13 Jl '60.
(Sun) (Atmosphere)

VITEL'S, L.A.

Changes in the frequency of atmospheric circulation and their transformation in connection with solar activity over a period of many years. Trudy GGO no.90:95-115 '60. (MIRA 13:6)
(Climatology)

3.9000
3.5000

92048
S/050/60/000/07/02/002
B019/B063

AUTHOR: Vitel's, L. A.

TITLE: The Possible Cause of the Change in the Relationship Between the Sun and the Terrestrial Atmosphere

PERIODICAL: Meteorologiya i gidrologiya, 1960, No. 7, pp. 9 - 13

TEXT: Papers by Ye. Ye. Fedorov, V. Yu. Vize, et al. show that the relationship between the Sun and the terrestrial atmosphere has no universal and invariable character. In the present paper, the author endeavors to clarify the relationship between the Sun and the terrestrial atmosphere by introducing a hypothesis. He refers to a model of this relationship suggested by L. R. Rakipova (Refs. 5 and 6), and gives a brief description of the development of cyclones and anticyclones. The heating of the atmosphere by solar corpuscles is investigated, and it is noted that the relationship between solar activity and the intensity of cyclones and anticyclones cannot always be expressed very clearly, even if different assumptions are made for the energy of corpuscular radiation. On the strength of the latest measurements, the author states

Card 1/2